

CLAIMS

What is claimed is:

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1. A method for storing an incoming datagram in a switch matrix of a switch fabric, the switch matrix having a pair of buffers, each buffer having a pair of portions, comprising:
 - 4 (a) receiving data of a datagram;
 - 5 (b) sequentially filling the buffer portions with the data of the datagram;
 - 6 (c) periodically allowing transfer of data from the buffers into the switch matrix;
 - 7 and
 - 8 (d) transferring the data in one of the buffer portions into the switch matrix at each period where transfer of data is allowed and in the sequence that the buffer portions were filled.
- 1 2. The method of claim 1, wherein data in a buffer portion can only be transferred into the switch matrix if the buffer portion is filled with data or contains an end of a datagram.
- 1 3. The method of claim 1, wherein the switch matrix comprises a plurality of memory banks for storing the transferred data.
- 1 4. The method of claim 3, wherein the memory banks alternate in receiving data transferred from the buffer portions.
- 1 5. The method of claim 1, wherein the buffer portions each have equal storage capacities.
- 1 6. The method of claim 5, wherein each buffer portion has a storage capacity of 16 bytes.

1 7. The method of claim 1, wherein transfer of data is allowed every 16 cycles.

1 8. A system for storing an incoming datagram in a switch fabric, comprising::
2 at least one interface receiver adapted for receiving data of an incoming
3 datagram;
4 a switch matrix having a pair of buffers, each buffer having a pair of portions
5 in communication with the interface receiver to permit sequentially
6 filling of the buffer portions with the data of the incoming datagram;
7 the switch matrix having a memory in communication with the buffer
8 portions; and
9 control logic for periodically allowing transfer of data from the buffers into
10 the memory, wherein data in one of the buffer portions is transferred
11 into the switch matrix at each period where transfer of data is allowed
12 and in the sequence that the buffer portions were filled.

1 9. The system of claim 8, wherein data in a buffer portion can only be
2 transferred into the switch matrix if the buffer portion is filled with data or
3 contains an end of a datagram.

1 10. The system of claim 8, wherein the memory comprises a plurality of memory
2 banks each adapted for storing the transferred data.

1 11. The system of claim 10, wherein the memory banks alternate in receiving
2 data transferred from the buffer portions.

1 12. The method of claim 8, wherein the buffer portions each have equal storage
2 capacities.

1 13. The method of claim 12, wherein each buffer portion has a storage capacity
2 of 16 bytes.

1 14. The method of claim 8, wherein transfer of data is allowed every 16 cycles.

1 15. A computer program product for storing an incoming datagram in a switch
2 matrix of a switch fabric, the switch matrix having a pair of buffers, each
3 buffer having a pair of portions, comprising:
4 (a) computer code for receiving data of a datagram;
5 (b) computer code for sequentially filling the buffer portions with the data of the
6 datagram;
7 (c) computer code for periodically allowing transfer of data from the buffers into
8 the switch matrix; and
9 (d) computer code for transferring the data in one of the buffer portions into the
10 switch matrix at each period where transfer of data is allowed and in the
11 sequence that the buffer portions were filled.

1 16. The computer program product of claim 15, wherein data in a buffer portion
2 can only be transferred into the switch matrix if the buffer portion is filled
3 with data or contains an end of a datagram.

1 17. The computer program product of claim 15, wherein the switch matrix
2 comprises a plurality of memory banks for storing the transferred data.

1 18. The computer program product of claim 17, wherein the memory banks
2 alternate in receiving data transferred from the buffer portions.

1 19. The computer program product of claim 15, wherein the buffer portions each
2 have equal storage capacities.

1 20. The computer program product of claim 15, wherein transfer of data is
2 allowed every 16 cycles.

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